REMARKS

The present invention is directed to analogues of 2-methoxyestradiol modified at least at the 17-position, R_g, and to methods of treating undesired angiogenesis with the analogues. Claims 1-92 were filed originally. With this response Claims 5, 16-33, 39-40 and 90 have been canceled. Applicants reserve the right to re-file these claims in continuing and divisional applications.

Claim 1 has been amended as follows. In the second line of section b, the chemical moiety ">C(H)-C(O)-OR3" is replaced with -C(O)-OR_3 for consistency in describing the possible moieties of R_a. Also in the second line of section b, the term "ROR, ROR_1," is replaced with -R(O)R, -R(O)R_1, to correct a typographical error. Support for correcting this typographical error is found by the fact that in the moieties before and after "ROR, ROR_1", each of the oxygens are attached to the ring by a double bond, descriptively written as "(O)". Furthermore, the moieties disclosed and written in format of "ROR, ROR_1" are already disclosed in the formats of "-O-R, -R-R_1,", also found in line 2 of section b. Further, this typographical correction is consistent with the compounds claimed in Claims 25, 26, 35, 43, 51, 59, 67, 75 and 83. In the fourth line of section b, a semi-colon is changed to a comma. In line 1 of section d, the moiety ">C(H)-OH" is removed and in lines 12 and 18 of section d, phrases are added to emphasize that the 17-position, R_g, is not -OH in each of the claimed compounds of this application. Finally, line 2 of section f, which states, "and wherein saturated bonds in any ring may be dehydrogenated;" is deleted.

Claims 4, 41-56, 81-88 and 91-92 have been amended for consistent formatting.

Thus, following these amendments, Claims 1-4, 6-15, 34-38, 41-89 and 91-92 are pending. No new matter has been added with these amendments and their support can be found generally within the specification and the claims as originally filed. Applicants note that in Claims 2, 3, 8-10, 12, 13, 34-38, 41-88 and 91-92, R_g is a hydrogen or hydrocarbyl; in Claims 4, 6, 11 and 14, R_g contains at least one nitrogen; and in Claims 7, 15 and 89, R_g contains oxygen, carbon and hydrogen only.

CONCLUSION

By this Response to Restriction Requirement and Preliminary Amendment, Applicants have elected Group X, directed to analogues of 2-methoxyestradiol modified at the 17-position, R_g, have amended Claims 1, 4, 41-56, 81-88 and 91-92, and have cancelled Claims 5, 18-33, 39-40 and 90. Applicants believe that the claims are now in condition for allowance. A Notice of Allowance is therefore respectfully solicited. If the Examiner believes any informalities remain in the application that may be corrected by Examiner's Amendment, or there are any other issues that can be resolved by telephone interview, a telephone call to the undersigned attorney at (404) 745-2413 is respectfully solicited.

Respectfully submitted,

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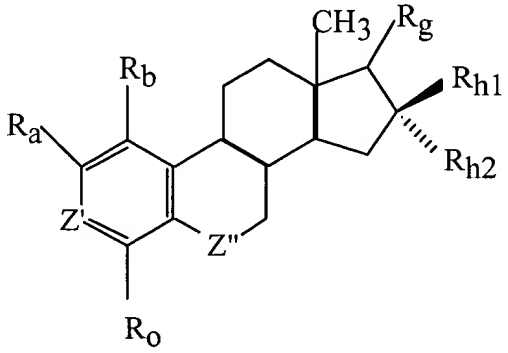
VERSION OF AMENDMENTS WITH MARKINGS SHOWING CHANGES

In accordance with 37 CFR 1.121(c), the following versions of the claims as rewritten by the foregoing amendment show all the changes made relative to the previous versions of the claims. Added text is marked with underline. Deleted text is marked with [square brackets].

Claims 5, 16-33, 39-40 and 90 are cancelled.

1. (Amended) A compound of the general formula:



wherein:

a) R_b and R_o are independently -H, unless otherwise noted to be -Cl, -Br, -I, -F, -CN, lower alkyl, -OH, -OR_6,-CH_2-OH, -NH_2, or N(R_6)(R_7), wherein R_6 and R_7 are independently hydrogen or an alkyl or branched alkyl with up to 10 carbons;

b) R_a is -N_3, -C≡N, -CH_2-C≡R, -C≡C-R, -C=CH-R, -R-C=CH_2, -C≡CH, -CH_2-C≡N, [>C(H)-C(O)-OR_3,] -C(O)-OR_3, -O-R, -R-R_1, -O-R-R_1, OR(O)R, OR(O)R_1, [ROR, ROR$_1$,] -R(O)R, -R(O)R_1, -NHC(O)R_6, -NRC(O)R_6, -NH_2, or N(R_6)(R_7), wherein R_6 and R_7 are independently hydrogen or an alkyl or branched alkyl with up to 10 carbons[;], or a hetero group wherein the hetero group may have more than one hetero atom and may be substituted, where R is H or a straight or branched alkyl with up to 10 carbons or aralkyl, and in any position F may be substituted in or on the carbon chain, and R_1 is -OH, -NH_2, -Cl, -Br, -I, -F or CF_3 when R_1 is terminal;

c) Z' is >COH, unless otherwise noted to be >C-OAc;

d) >C-Rg is >CH_2, [>C(H)-OH,] >C=O, >C=N-OH, >C(R_3)OH, >C=N-OR_3, >C(H)-NH_2, >C(H)-NHR_3, >C(H)-NR_3R_4, or >C(H)-C(O)-R_3, where each R_3 and R_4 is independently an alkyl or branched alkyl with up to 10 carbons or aralkyl; or

R_g is i) an alkyl of 1-10 carbon atoms that is straight chain or branched, ii) an alkenyl of 1-10 carbon atoms that is straight chain or branched having one or more double bonds at any position from C to Zo, iii) an alkenyl group of 1-10 carbon atoms that is straight chain or branched having one or more triple bonds at any position where chemically possible, iv) a mono or dialkyl amino group wherein each alkyl chain has from 1-10 carbon atoms and is straight chain or branched, v) $(CH_2)_n$-CF_2-, $(CH_2)_n$-CR_1 or $(CH_2)_n$-CF_3 wherein n=0-10 carbons, or vi) H, and wherein any of i-iv are optionally substituted with an aromatic or heteroaromatic group or optionally substituted with a heterogroup and wherein R_g is either in the α or β position [and] , wherein R_g is not -OH; or

R_g is Rg_1 and Rg_2, and wherein Rg_1 may be present or absent and when present is –H, an alkyl, alkenyl, or alkynyl of 1-10 carbon atoms that is straight chain or branched and is optionally substituted, and Rg_2 is a hetero group, wherein when Rg_1 is absent the heterogroup is bonded to the 17-position with a double bond, and wherein either Rg_1 or Rg_2 can be in the β position with the other group in the α position, and R_1 is -OH, -NH_2, -Cl, -Br, -I, -F or CF_3 when R_1 is terminal, and wherein Rg_1 or Rg_2 are not together -H and –OH;

e) R_{h1} and R_{h2} are independently H, unless otherwise noted to be a straight or branched chain alkyl, alkenyl or alkynyl with up to 10 carbons that is unsubstituted, or substituted with one or more groups selected from a hetero functionality that is either not substituted, mono-substituted or multiply substituted with an alkyl, alkenyl or alkynyl chain up to 10 carbons; a halo functionality (F, Cl, Br or I); an aromatic group optionally substituted with at least one hetero, halo or alkyl; or R_{h1} and R_{h2} are independently a group containing at least one alphatic or aromatic group optionally substituted with at least one hetero, halo or alkyl;

f) Z" is >CH_2;

[and wherein saturated bonds in any ring may be dehydrogenated;]

and wherein all monosubstituted substituents have either an α or β configuration;

and wherein lower alkyl is defined as a carbon chain having 1-10 carbon atoms which may be branched or unbranched.

4. (Amended) The compound of Claim 1, wherein :

R_a is -OCH_3; and

[Rg_1 is absent; and

R_{g2}] $\underline{R_g}$ is =NOH.

41. (Amended) The compound of Claim 1, wherein :

R_a is $-OCH_2CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_3$.

42. (Amended) The compound of Claim 1, wherein :

R_a is $-C\equiv C-CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CHCH_3$.

43. (Amended) The compound of Claim 1, wherein :

R_a is –C(O)H; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CHCH_3$.

44. (Amended) The compound of Claim 1, wherein :

R_a is –NHC(O)H [or –NNC(O)N]; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CHCH_3$.

45. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_2OH$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CHCH_3$.

46. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_2CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CHCH_3$.

47. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_3$; and

[R_{g1} is absent; and

R_{g2}] Rg is $=CHCH_3$.

48. (Amended) The compound of Claim 1, wherein :

R_a is $-CH=CHCH_3$; and

[R_{g1} is absent; and

R_{g2}] Rg is $=CHCH_3$.

49. (Amended) The compound of Claim 1, wherein :

R_a is $-OCH_2CH_3$; and

[R_{g1} is absent; and

R_{g2}] Rg is $=CH_2$.

50. (Amended) The compound of Claim 1, wherein :

R_a is $-C\equiv CCH_3$; and

[R_{g1} is absent; and

R_{g2}] Rg is $=CH_2$.

51. (Amended) The compound of Claim 1, wherein :

R_a is $-C(O)H$; and

[R_{g1} is absent; and

R_{g2}] Rg is $=CH_2$.

52. (Amended) The compound of Claim 1, wherein :

R_a is $-NHC(O)H$; and

[R_{g1} is absent; and

R_{g2}] Rg is $=CH_2$.

53. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_2OH$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CH_2$.

54. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_2CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CH_2$.

55. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CH_2$.

56. (Amended) The compound of Claim 1, wherein :

R_a is $-CH=CHCH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CH_2$.

81. (Amended) The compound of Claim 1, wherein :

R_a is $-OCH_2CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g \text{ is}}$ $=CHCH_2CH_3$.

82. (Amended) The compound of Claim 1, wherein :

R_a is $-C\equiv CCH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_2CH_3$.

83. (Amended) The compound of Claim 1, wherein :

R_a is $-C(O)H$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_2CH_3$.

84. (Amended) The compound of Claim 1, wherein :

R_a is $-NHC(O)H$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_2CH_3$.

85. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_2OH$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_2CH_3$.

86. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_2CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_2CH_3$.

87. (Amended) The compound of Claim 1, wherein :

R_a is $-CH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_2CH_3$.

88. (Amended) The compound of Claim 1, wherein :

R_a is $-CH=CHCH_3$; and

[R_{g1} is absent; and

R_{g2}] $\underline{R_g}$ is $=CHCH_2CH_3$.

91. (Amended) The compound of Claim 1, wherein :

R_a is $-N3$; and

[>C-R_g is >CH] $\underline{R_{g1}}$ and $\underline{R_{g2}}$ are each H.

92. (Twice Amended) The compound of Claim 1, wherein :

R_a is –H; and

[>C-R_g is >CH] $\underline{R_{g1}}$ and $\underline{R_{g2}}$ are each H.